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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/508,685	05/31/2000	ERLAND SORENSEN	9847-0036-6X	7906

22850 7590 06/25/2004

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EXAMINER	
MULLINS, BURTON S	

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/508,685	SORENSEN ET AL.	
	Examiner	Art Unit	
	Burton S. Mullins	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 August 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Suspension

1. Pursuant to the Board of Appeal's final decision regarding U.S. Application No. 08/973,019, suspension has been lifted. As set forth in the decision on petition requesting suspension, the instant application was granted a suspension pending the decision on appeal of the '019 application. On November 27, 2002, the Board affirmed the rejection of the '019 application and on August 27, 2003, the Board denied applicant's request for reconsideration, thus terminating prosecution of the '019 application. An action on the merits follows.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 19, 25-29 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trautner et al. (US 4,106,069) in view of Breitenbach et al. (US 4,785,138). Trautner et al. substantially teaches the claimed invention and that the machine is configured to be connected directly to a distribution or transmission network (c.3, lines 19-21 and 31-34), and that the brushless excitation system is configured to excite the alternating current rotary electric machine (c.1 , lines 6-14) except that it does not show a first layer that exhibits semiconducting properties and surrounds the electric conductor, a solid insulating layer surrounding the first layer, and a second layer that exhibits semiconducting properties and surrounds the insulating layer. Trautner does not show that the conductor comprises a number of strands, at least some of which are in electric contact with each other; or that each of the first layer, the insulation

layer and the second layer is firmly joined to adjacent layers along respective entire contact surfaces; or that the layers are arranged to adhere to each other even when the electric winding is bent; or that the cable comprises at least one of a metal screen and a sheath.

Breitenbach et al. disclose a first layer (7) that exhibits semiconducting properties and surrounds the electric conductor (5), a solid insulating layer (8) surrounding the first layer (7), and a second layer (9) that exhibits semiconducting properties and surrounds the insulating layer (8). Breitenbach shows that the conductor (5) comprises a number of strands (6), at least some of which are in electric contact with each other, with each of the first layer (7), the insulation layer (8) and the second layer (9) firmly joined to adjacent layers along respective entire contact surfaces. Breitenbach shows that the layers are arranged to adhere to each other even when the electric winding is bent; and that the cable comprises at least one of a metal screen and a sheath (10). The invention of Breitenbach has the purpose of minimizing thermal aging and avoiding detaching of the layer from the conductor due to bending or axial stress.

It would have been obvious at the time the invention was made to modify Trautner and provide a conductor disclosed by Breitenbach for the purpose of minimizing thermal aging and avoiding detaching of the layer from the conductor due to bending or axial stress.

4. Claims 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trautner in view of Breitenbach as applied to claim 19 above, and further view of Elton et al. (US 5,036,165). Trautner and Breitenbach disclose an electric machine as described in item 1 above. However, neither Trautner nor Breitenbach discloses that a potential on the first layer is substantially equal to a potential on the conductor; or that the second layer is arranged to form a substantially equipotential surface surrounding the conductor; or that the second layer is

connected to a source of a predetermined potential; or that the predetermined potential is earth potential.

Elton discloses that a potential on the first layer (104) is substantially equal to a potential on the conductor (102). Elton discloses that the second layer (110) is arranged to form a substantially equipotential surface surrounding the conductor (102); with the second layer (110) connected to a source of a predetermined potential (114). Elton discloses that the predetermined potential is earth potential. The invention of Elton has the purpose of avoiding the development of a corona discharge when an electrical potential exists between the conductor and the region adjacent the exterior surface of the insulator.

It would have been obvious at the time the invention was made to modify the electric machine of Trautner and Breitenbach and provide it with the conductor disclosed by Elton for the purpose of avoiding the development of a corona discharge when an electrical potential exists between the conductor and the region adjacent the exterior surface of the insulator.

5. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Trautner in view of Breitenbach as applied to claim 19 above, and further in view of Penczynski et al. (US 3,959,549). Trautner and Breitenbach disclose an electric machine as described on item 1 above. However, neither Trautner nor Breitenbach discloses that at least two adjacent layers of the electric winding have substantially equally large coefficients of thermal expansion.

Penczynski discloses that at least two adjacent layers (6, 20) of the electric winding have substantially equally large coefficients of thermal expansion (c.4, lines 37-40). The invention of Penczynski has the purpose of improving the mechanical elasticity of the insulation.

It would have been obvious at the time the invention was made to modify the electric machine of Trautner and Breitenbach and provide it with the expansion capabilities disclosed by Penczynski for the purpose of improving the mechanical elasticity of the insulation.

6. Claims 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trautner in view of Breitenbach as applied to claim 28 above, and further in view of Platzer (US 4,121,148). Trautner and Breitenbach disclose an electric machine as described on item 1 above. However, neither Trautner nor Breitenbach discloses at least one of a two-way field over-voltage protection mechanism and a discharge circuit connected across the field winding, and control equipment configured to control current converters and a field over-voltage protection mechanism or discharge circuit; or that the control equipment is configured to change a polarity of the current converters for switching a direction of the excitation current from the excitation system, and the control equipment configured to cause the over-voltage protection mechanism to be temporarily connected at transition from one to the other current direction.

Platzer discloses at least one of a two-way field over-voltage protection mechanism and a discharge circuit connected across the field winding, and control equipment configured to control current converters and a field over-voltage protection mechanism or discharge circuit. Platzer discloses that the control equipment is configured to change a polarity of the current converters for switching a direction of the excitation current from the excitation system, and the control equipment configured to cause the over-voltage protection mechanism to be temporarily connected at transition from one to the other current direction. Platzer's invention has the purpose of deriving the current for exciting the field of the exciter from the generator.

It would have been obvious at the time the invention was made to modify the electric machine of Trautner and Breitenbach and provide it with the protection mechanism and control mechanism disclosed by Platzer for the purpose of deriving the current for exciting the field.

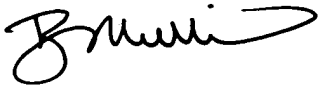
Response to Arguments

7. Applicant's arguments filed 28 August 2002 have been fully considered but they are not persuasive. In response to applicant's argument that Trautner does not teach a brushless excitation system switchable between positive and negative excitation modes, it is noted that Trautner teaches a brushless machine (abstract) with a control unit 13 (Fig.1) which provides a square pulse to control element 12, with a diode arrangement shown schematically to handle positive and negative modes of operation. In response to applicant's arguments that Breitenbach's linear motor windings would be inappropriate for rotating machines, it is noted that Breitenbach has the purpose of minimizing thermal aging and avoiding detaching of the layer from the conductor due to bending or axial stress. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 571-272-2029. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm
23 June 2004